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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,024	02/28/2002	Wilhelmus Maria van der Krieken	702-020310	1592

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EXAMINER

CLARDY, S

ART UNIT	PAPER NUMBER
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1616

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/087,024	<b>Applicant(s)</b> VAN DER KRIEKEN ET AL.	
	<b>Examiner</b> S. Mark Clardy	<b>Art Unit</b> 1616	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2 and 7-14 is/are allowed.
- 6) ☒ Claim(s) 3-6 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

Claims 1-15 are pending in this application which is a continuation in part of US application SN 09/717,872, abandoned, which is a continuation of SN 08/981,110, filed March 13, 1998, now US Patent 6,242,381, which was filed under 35 USC 371 as a national stage application of PCT/EP96/02789, filed June 24, 1996.

Applicants' claims are drawn to methods and compounds/compositions for prolonging plant growth regulator (PGR) activity, *in vivo* or *in vitro*, comprising:

Claim 1: Methods of increasing/prolonging activity of PGRs by:

- a) administering either: 1) encapsulated PGRs, and/or  
2) PGRs chemically bonded to carrier molecules<sup>1</sup>, optionally through linking or spacer molecules<sup>2</sup>
- b) inducing a defensive response in the plant to increase sensitivity to the PGRs, e.g., by application of elicitors<sup>3</sup>, or elicitor inducers<sup>4</sup>

Claim 3: PGRs: aminooxyacetic acid (AOA) and indoleacetic acid (IAA) derivatives

t-butyloxycarbonylaminoxyacetic acid (or t-Boc-AOA)  
benzoyloxycarbonyl aminoxyacetic acid  
N,N'-di(aminooxyacetic acid) ethylenediamine  
N,N'-di-t-Boc-AOA  
propionic aminooxyacetic acid  
1-N-indole-3-hexanoic acid  
indoleacetic acid (IAA) N-conjugate with bovine serum albuminate  
indolebutyric acid (IBA) N-conjugate with bovine serum albuminate  
indoleacetic acid (IAA) C-conjugate with bovine serum albuminate

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<sup>1</sup>Carrier molecules: sucrose, glucose, sorbitol, sterols, terpenes, phosphorylated hydrocarbons

<sup>2</sup>Spacer molecules: succinic acid, malonic acid, diaminoalkanes (e.g., 1,2-diaminoethane, 1,4-diaminobutane, 1,6-diaminohexane).

<sup>3</sup>Elicitors: oligosaccharides, lignin fragments, tannic acid, jasmonic acid, nonanoic acid, uridine, foreign compounds such as lipo-chito-oligosaccharides, fusicoccine, pythium extract, 4-acetamidophenol.

<sup>4</sup>Elicitor inducers: pectinase, glucanase, cellulase, UV-B, ozone.

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The synthesis of each of the protected AOA derivatives is provided in the specification, Example 7, pages 17-19. Claim 3 now reads on the compounds in combination with "at least one customary carrier".

The terminal disclaimer filed on December 24, 2003, disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent 6,242,381, has been reviewed and is accepted. The terminal disclaimer has been recorded. The double patenting rejection is withdrawn.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3-6 are now rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The addition of the phrase "at least one customary carrier", upon further review of the specification as indicated in applicants' latest response, appears to insert new matter into the specification. Ordinarily in plant growth regulating composition and method applications, such an addition is typically encompassed by the original disclosure inasmuch as most such inventions necessarily mix active agents with carriers (such as water) for application to plants. In the instant application, however, the invention appears to reside in covalent linkages between known physiologically active agents, and carrier molecules as recited in claim 3 (see the specification, pages 3-4). It does not appear that the disclosure, as originally filed, supports claims drawn to

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compositions that merely comprise the recited compounds and a customary carrier. Unless there is explicit support for this additional claim language in the specification as originally filed, it constitutes new matter and may not be added.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 11, from which claim 15 depends, is drawn to a plant metabolism regulator comprising a plant growth regulator compound linked to a carrier compound such as t-BOC-AOA (first listed compound). Claim 15 is drawn to a plant metabolism regulator of claim 11 wherein the plant metabolism regulator is t-BOC-AOA. It appears that claim 15 should be amended to refer to t-BOC-AOA as either: 1) the plant growth regulator compound (resulting in a di-t-BOC-AOA compound), or 2) the compound to which a plant growth regulator compound is linked.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 3-6 are again rejected under 35 U.S.C. 102(a), (b) and (e) as being anticipated by Kisfaludy et al (US 3,873,510).

Kisfaludy et al, again, teach the concept of linking active agents (i.e., peptides with ACTH activity) with applicants' aminooxycarboxylic acid group, represented in this reference as OGly (col 2, lines 38-39). Specifically taught is the synthesis of t-BOC-AOA (BOC-OGly: col 6, "Step 1", lines 5-26), wherein the subject compound is crystallized out of an aqueous solution.

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Even if the "one customary carrier" language remains in the claim, Kisfaludy et al disclose the compound in an aqueous composition. Note that water is a customary carrier for agrochemical compositions. The functional references in claims 4-6 are irrelevant in compound claims.

Claims 1, 2, and 7-14 are allowable over the cited prior art.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

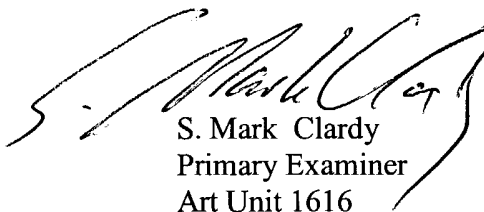
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mark Clardy whose telephone number is 571-272-0611. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
S. Mark Clardy  
Primary Examiner  
Art Unit 1616

April 20, 2004